

‘Radium Hill: Bindi to Boom Town’ – a response

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It was pleasing to note that Gavin Mudd found my paper ‘Radium Hill: Bindi to Boom Town’, Volume 5 (2007) *Journal of Australasian Mining History*, both ‘an interesting and enjoyable oral history’.¹ The writer has also noted the criticisms concerning the article and makes the following observations.

Mudd’s previously published paper ‘Early Uranium Efforts in Australia 1906 to 1945’,² that he quotes and which has been read by Kakoschke, certainly clarifies succinctly many facets of this era and adds to our knowledge and the debate concerning the early period of radium mining at Radium Hill. However, the intention of my paper was not to go into the profitability or otherwise of the Radium Hill project but to present a paper that tried to highlight the infrastructural development, the human and social elements of the developments and some of the less tangible benefits. While the very last sentence of my paper did state that ‘Radium Hill was one of the few South Australian Government projects that made a profit’,³ the essence of the paper was not based on this aspect, and perhaps I was too hasty in making that statement, but as Mudd himself states in his comment paper, to his ‘knowledge, there still has not been, even half a century later, a proper financial account released of the Radium Hill project’.⁴ Mudd’s calculations based on various sources certainly appear to show that financial profits were not made, and perhaps to add to his comments I would point out that even on site there would have been difficulties in assessing the true state of affairs. For example, the Radium Hill Project was witness to changing accounting terms of reference and policy for allocating costs/monies to the various cost centers, which has caused confusion. At varying stages of development and operation the costs could be invoiced to the Radium Hill capital account, the South Australian Department of Mines general revenue account, general loan account, special loan account etc..⁵ Some other Government Departments were also involved with the Project including The South Australian Railways, The Engineering and Water Supply Dept., The Highways Department and the Electricity Trust of South Australia, who also had their accounting system’s terms of reference to abide by. In 1960/61, the author was involved in compiling site consumption and cost center reports for air, water and power. Creative accounting was sometimes used to ‘crunch’ the numbers for the various sites to balance the inputs,

outputs and associated costs and perhaps creative accounting initiatives might also have been used by others! Thus, with the passing of time, identities involved, oral instructions given, accounting terms of reference used or not used and the loss of some records, all make the financial analysis of the project an extremely difficult task in determining the absolute truth of the figures one could use to prove one thing or another as regards the financial gain/loss attributed to the Radium Hill Project.

In my article, a brief, broad brush approach was used to outline the evolution of the mine with much emphasis placed on the development of the supporting infrastructure and services necessary for the well being of the mine's workforce. No attempt was made to state specific costs associated with the development and running of the project. Without a contented workforce a mine will experience operating difficulties. This human side is often overlooked when writing a history of mining developments expressed in ore, dollars and cents, and the intent of the article was in part, to redress this situation. In the paper I also drew attention to the early problems associated with radioactivity/radon gas, quoting the deaths of 54 workers, so did not deny this point as hinted by Mudd when stating that research also indicated the site had not been effectively rehabilitated.⁶ It might be pertinent to note here that Radium Hill is the site of the 'first' Australian State Government Gazetted low-level radioactive waste repository (dump).⁷ Perceived rehabilitation criteria of the 1960's were different to those of the 1980s, which in turn are different to those of today.⁸ Officers of Primary Industries and Resources, South Australia, and associated Government Departments are endeavoring to establish environmental data for the site.⁹ Analysis of this data will enable them to formulate options and recommend a course of action to the Government for implementation whereby rehabilitation of the site will satisfy Australian standards for such sites. Hopefully this will occur in the not too distant future. It will then be up to interested parties and stakeholders to monitor conditions, review policy, and action plans and if necessary to ensure compliance with contemporary standards.

With respect to Mudd's comments on the origins of the demand for uranium, where he claims that in 1944 it was the British not the Americans who were anxious to ascertain supply from Australia because of their 'positioning themselves for their own post-war military program'¹⁰ this suggestion is not supported by other authorities.¹¹ While the sense of urgency declined after the War it should be noted that development was pushed again in 1947 by the South Australian Premier, Sir Thomas Playford who

was aware that uranium might resolve the State's power needs, 'once the Leigh Creek Coalfield had served its purpose' and 'seized on the potential that uranium seemed to offer' as another source of energy.¹² The American Government became involved again in the early 1950's and this resulted in themselves, the British, Australian and South Australian State Governments signing the purchase agreement for the sale of Radium Hill uranium in 1952. Thus there were dual reasons why the South Australian government was keen to see development take place.

While Mudd has some reservations about statements I made regarding the destination of the uranium ores/concentrate produced at Radium Hill, there is, I agree, some disagreement among various sources, thus making it difficult to get an accurate picture. One omission incidentally, was the parcel of 43 tons of ore recorded by the Hon. Lyell McEwin, Minister of Mines that was sent to Bairnsdale in Victoria in 1911 for the extraction of radium.¹³ This appears to have been ignored from some other sources as far as my researches can tell.

Regarding the price of the commodity, in the political uncertainties of 1951/52 the involved parties agreed on the conditions for the sale of uranium as noted by Mudd¹⁴ and while price is usually governed to a large extent by the forces of supply and demand perhaps other forces were also at play when it came to Radium Hill uranium. Much of the negotiation on prices was conducted by Sir Thomas Playford, the astute Premier and Treasurer of South Australia at the time, who led the contract negotiating team which included Sir S. Ben Dickinson, who later commented, 'The United States Atomic Energy Commission was deeply impressed by the thoroughness of the mining proposal and agreed to the terms of sale. A well remembered remark by Sir Thomas Playford at the conclusion of the meeting was, 'We came as strangers and you took us in!' To which the reply was, 'Next time we'll keep our pockets buttoned up!'.¹⁵ An article written in *The News*, at the official opening of the mine in November 1954 stated, 'This agreement ensures the financial success of the venture, another dollar earning avenue, but still allows SA to retain what stocks are required for local use.'¹⁶ As Kristin Weidenbach notes in her recent book

Despite its short lifetime the Radium Hill Project had been a financial success for the state government. Within 18 months all operating costs had been recovered, full interest charges met and 16% of the \$7 million capital investment in Radium Hill and the Port Pirie processing plant had been recovered. In its seven years of full operation the mine had provided more than \$26 million net in overseas exchange and employment for up to 700 people'.¹⁷

Perhaps the point I was making in my article was that profit is not just confined to the square enclosing financial gain. To think outside the square one also needs to consider profit as ‘... benefit, advantage, gain’.¹⁸ In some instances it is hard to put a financial cost/gain on these benefits, as facets of them may be intangible or unknown. Examples could include the intellectual property developed by the scientists employed at AMDEL and improved worker safety regulations applying to radiation/radon gas emissions where the miner and subsequently his family benefit from better safety standards existing in the uranium mines of today compared to the 1950’s.¹⁹ However, many of these benefits (‘profits’) or otherwise are more than ‘just positive memories and curious mining ‘firsts’ as stated by Mudd.²⁰ Some are listed by Kakoschke and referenced under the heading ‘Historic Legacies of Radium Hill’,²¹ including: a) Establishment of the AMDEL laboratories; b) Formation of The Australian Mineral Foundation in Adelaide; c) Introduction of the heavy media milling process for separating hard rock ores; d) Revision of safety standards for safer working conditions in the uranium mines of today; e) Another ‘curious mining first’ was ‘the flotation of uranium minerals especially under conditions requiring treatment of slimes particles in salt water’. This process/technique was patented by the South Australian Government’s Department of Mines.²²

Perhaps the rationale for presenting my paper is best summed up by Sir S Ben Dickinson, Kt.B., the ‘Past Director of Mines’ in South Australia and Chairman of Radium Hill Project Committee, who wrote in the forward to The Radium Hill Historical Association book, *We Were Radium Hill*: ‘Radium Hill is deserving of lasting recognition in the history of mining in Australia’.²³

Endnotes

¹ Gavin M. Mudd, “ ‘Radium Hill: Bindi to Boom Town’ - some comments”, *Journal of Australasian Mining History*, vol. 6, September 2008, pp. 178-81.

² G.M. Mudd, ‘Early Uranium Efforts in Australia 1906 to 1945: The Legacy From Radium Hill to the Atomic Bomb and Today’, *Historical Records of Australian Science*, 16 (2), December 2005, pp. 169-98.

³ Kevin R. Kakoschke, ‘Radium Hill: Bindi to Boom Town’, *Journal of Australasian Mining History*, vol. 5, September 2007, p. 148.

⁴ Mudd, ‘Radium Hill: Bindi to Boom Town’, p. 180.

⁵ N. Jackson and C.J. Nelson, ‘Performance of Mineral Dressing Pilot Plant at Radium Hill’, *Mining Review*, no. 100; Half year ending June 1954, Metallurgical Report, no. 66, South Australian Department of Mines, Adelaide, p. 131.

⁶ Mudd, ‘Radium Hill: Bindi to Boom Town’, p. 180.

⁷ *South Australian Government Gazette*, 2 April 1981, p. 1018.

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- ⁸ B.G. Lottermoser & P.M. Ashley, 'Physical Dispersion of Radioactive Mine Waste at the Rehabilitated Radium Hill Uranium Mine Site, South Australia', *Australian Journal of Earth Sciences*, 53, 2006, p. 485.
- ⁹ M. McLeary, 'Radium Hill Uranium Mine and Low Level Radioactive Waste Repository Management Plan Phase 1- Preliminary Investigation 2004', *South Australia, Department of Primary Industries and Resources, South Australia, Report Book, 2004/9. Radium Hill Management Plan, 2004, Introduction*, p. iii.
- ¹⁰ Mudd, 'Radium Hill: Bindi to Boom Town', p. 177.
- ¹¹ B. O'Neil, *Above and Below: The South Australian Department of Mines and Energy 1944-1994*, South Australian Department of Mines and Energy, Adelaide, 1995, p. 74.
- ¹² *Ibid*, p. 78
- ¹³ Hon. Lyell McEwin, Minister of Mines, *Visit of Members of Parliament of South Australia to the Radium Hill Uranium Field*, South Australian Department of Mines, 1951, p. 11.
- ¹⁴ Mudd, 'Radium Hill: Bindi to Boom Town', p. 179.
- ¹⁵ M. Harrington and K. Kakoschke, 'We Were Radium Hill', *Stories and memories of people who once lived in Radium Hill*, Malcolm Harrington for the Radium Hill Community Association, Adelaide, 1991, Fwd, p. 1.
- ¹⁶ 'Big plans revealed at Radium Hill', *The News*, Adelaide, Wednesday, 10 November 1954, p. 2.
- ¹⁷ Kristin Weidenbach, 'Rock Star': *The story of Reg Sprigg – an outback legend*, East Street Publications, Adelaide, 2008, p. 202.
- ¹⁸ A. Delbridge, and J.R.L. Bernard, *The Macquarie Encyclopedic Dictionary*, Macquarie Library Pty. Ltd., 1990, 'Profit' p. 755.
- ¹⁹ A. Woodward, D. Roder, A. McMichael, P. Crouch, and A. Mylvaganam, 'Radon daughter exposures at the Radium Hill uranium mine and lung cancer rates among former workers, 1952-87', *Cancer Causes and Control*, vol. 2, Rapid Communications of Oxford, 1991, pp. 213-20 (The efforts of Kakoschke in surveying former Radium Hill miners are acknowledged in 'this article'); A. Woodward. 'The Effects of Uranium Mining on Health', *Search*, Official Publication of the Australian and New Zealand Association for the Advancement of Science (ANZAAS), vol. 22, no. 4, June, 1991, pp. 131-33 (Radium Hill radiation levels before 1955 >100 mSv, Olympic Dam 1991 ave. ~ 10mSv); National Standards for Limiting Occupational Exposure to Ionizing Radiation [NOHSC: 1013 (1995)] Radiation Protection Series Publication no. 1, Republished March 2002, p. r-25. Currently, National Standard occupational dose limit is <20mSv). Miners now have less chance of radiation/radon effects and of contracting cancer than in the 1950's because of the regulated and monitored lower dose limits existing today.
- ²⁰ Mudd, 'Radium Hill: Bindi to Boom Town' - some comments, p. 180.
- ²¹ Kakoschke, 'Radium Hill: Bindi to Boom Town', pp. 147-8.
- ²² Jackson and Nelson, 'Performance of Mineral Dressing Pilot Plant', p. 111.
- ²³ Harrington and Kakoschke, 'We Were Radium Hill', Fwd. p. 1.